

REMARKS

Claims 1-9 and 11-22 are currently pending in the application. By this response, no claims are amended, added, or canceled. Claims 11-15 were withdrawn from consideration in the Office Action dated March 10, 2006. Claim 22 was withdrawn from consideration in the outstanding Office Action dated August 9, 2006. Reconsideration of the rejected claims in view of the following remarks is respectfully requested.

Restriction By Original Presentation

The Examiner has withdrawn claim 22 from consideration as being directed to a non-elected invention pursuant to constructive election by original presentation as set forth in 37 CFR §1.145 and as described in MPEP §821.03. This restriction is respectfully traversed.

Applicants respectfully submit that it is improper to withdraw a linking claim from consideration, and that claim 22 should be examined on the merits. The Examiner admits in the outstanding Office Action that claim 22 is a linking claim that links inventions I and II. MPEP §814 clearly states that a linking claim must be examined with the elected invention:

The generic or other **linking claims** should not be associated with any one of the linked inventions since such claims **must be examined with the elected invention**.
(emphasis added).

Moreover, the following language of Form Paragraph 8.12 (used by the Examiner in the Office Action) necessarily implies that a linking claim must be examined with the elected invention:

The restriction requirement of the linked inventions is subject to the nonallowance of the linking claim(s) ... Upon the indication of allowability of the linking claim(s) ...

That is, it would be impossible to have nonallowance or allowability of the linking claim without first examining the linking claim on the merits.

Accordingly, Applicants respectfully request that linking claim 22 be examined on the merits with the elected invention.

35 U.S.C. §112, First Paragraph Rejection

Claims 16-22 were rejected under 35 U.S.C. §112, First Paragraph for allegedly failing to comply with the written description requirement (i.e., as having new matter).¹ Specifically, the Examiner asserted that the claim 16 recitation "wherein the density of the support board continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint" is not supported by the specification. Additionally, the Examiner asserted that the claim 20 recitation "density distribution through a thickness of the support board is substantially parabolic in shape" is not supported by the specification. This rejection is respectfully traversed.

Applicants submit that claims 16 and 20 do not contain new matter. Support for the recited features of claims 16 and 20 is specifically found in passages of pages 5 and 6 of the specification as originally filed and in Figure 2, all reproduced below:

¹ It appears that the Examiner has inadvertently included claim 22 in this rejection. The Examiner has already stated that claim 22 is withdrawn from consideration. Moreover, the Examiner provides no reasoning as to why claim 22 contains new matter. Therefore, Applicants will assume that claims 16-21, but not claim 22, are rejected under 35 USC §112, First Paragraph.

FIG. 2 shows a density distribution over the cross section of a support board. (Specification, page 5, lines 22-23).

The cover layers 7, 17 of the support board 1 have a considerably higher density than the core 20 of the support board 1, densities of up to 1000 kg/m^3 being achieved in the cover layers 7 of the underside 5, while lower densities are set in the cover layer 17 of the top side 15. **Within the core 20, the density decreases continuously toward the center M of the support board 1, a corresponding density distribution over the thickness d of a support board 1 being illustrated in FIG. 2.** The latter shows that the lowest value for the density ρ is achieved in the center M of the support board, while the density ρ increases over the thickness d of the support board, starting from the center M, in order to reach its maximum on the surfaces of the cover layers 7, 17, the maximum value on the top side 15 being lower than the maximum value on the underside 5. (Specification, page 6, lines 5-21, emphasis added).

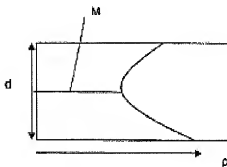


Fig. 2

Applicants note that the subject matter of the claim need not be described literally (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement (MPEP §2163.02). In light of this, Applicants submit that a fair reading of the above passages and figure supports Applicants' position that the disclosure of the application "reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Co. v. Far-*

Mar-Co., Inc., 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)). That is, the above passages describe that, within the core 20 of the support board, the density decreases continuously toward the center M of the support board. Moreover, Figure 2 shows a density distribution of a cross section of the support board. The density distribution shown in Figure 2 continuously decreases from the top side to a substantial midpoint of the support board, and continuously decreases from the underside to the substantial midpoint, as recited in claim 16. Moreover, the density distribution shown in Figure 2 has a substantially parabolic shape, as recited in claim 20. Therefore, claims 16 and 20 are fully supported by the original disclosure and do not contain new matter.

Accordingly, Applicants respectfully request that the rejection over claims 16-21 be withdrawn.²

35 U.S.C. §103 Rejection

Claims 1-5 and 7-9 were rejected under 35 U.S.C. §103(a) for being unpatentable over U.S. Patent No. 4,283,450 issued to Luck et al. ("Luck"). Claim 6 was rejected under 35 U.S.C. §103(a) for being unpatentable over Luck in view of U.S. Patent No. 6,352,661 issued to Thompson et al. ("Thompson"). These rejections are respectfully traversed.

The Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To establish a *prima facie* case of obviousness, three basic

² Applicants note that MPEP §2163.06 mandates that the examiner should still consider the subject matter added to the claim in making rejections based on prior art since the new matter rejection may be overcome by applicant. Therefore, if the Examiner rejects any of claims 16-21 in the next Official action on any other grounds, then the next Official action should not be made final.

criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2142.

Applicants submit that the applied references do not teach or suggest all of the features of the claimed invention.

Claims 1-5 and 7-9 in view of Luck

The present invention relates generally to a panel and, more particularly, to a panel having a non-uniform density distribution throughout its thickness. In particular, claim 1 recites:

1. A panel having a support board made of glued and compressed fiber material to which a termination layer is applied in each case on a top side and an underside, and the termination layer of the top side has a structured surface, wherein the density on the top side of the support board is lower than the density of the support board on the underside.

The Examiner asserts that Luck discloses a panel having a core and high density skin layers on the exterior surface of the core, and that it would have been obvious to one of ordinary skill in the art for the density of the top skin to be capable of being lower than the density of the lower skin layer. Applicants respectfully disagree with the Examiner's assertion, and submit that Luck does not teach or suggest all of the features of claim 1.

Luck discloses a fiberboard having integrally formed high-density skins. The surface fibers of a conventional fiberboard are impregnated with urea, and the fiberboard is post-pressed at elevated temperature and pressure. The post-pressing operation restructures the surface fibers contacted with urea to create the skins (col. 4, lines 35-36). The skins have a thickness of up to 0.06 inches (column 7, lines 35-43) and a density of about 40 to 55 pounds/ft³ (e.g., about 641 to 881 kg/m³). The remainder of the board (i.e., central core) has a density in the range of 10 to 35 pounds/ft³ (e.g., about 160 to 560 kg/m³). Luck does not teach or suggest the following features recited in claim 1: (i) the termination layer of the top side has a structured surface, or (ii) the density on the top side of the support board is lower than the density of the support board on the underside.

Luck does not teach or suggest the termination layer of the top side has a structured surface. Moreover, the Examiner fails to even assert that Luck teaches or suggests this feature. Therefore, the Examiner has failed to properly establish a *prima facie* case of obviousness with respect to claim 1 because the Examiner has failed to show how the applied reference teaches or suggests each and every feature of the claimed invention.

In any event, even assuming *arguendo* that the skins constitute termination layers, which the Examiner asserts but Applicants do not concede, there is no suggestion in Luck that the top side skin has a structured surface, as recited in claim 1. In non-limiting exemplary embodiments of the instant invention, the top side 15 of the termination layer 10 has a structured surface that may be applied by a stamping operation (see FIG. 1, and the paragraph spanning pages 6 and 7 of the specification).

Luck simply does not teach or suggest that the top side skin has any such structured surface.

Luck does not teach or suggest the density on the top side of the support board is lower than the density of the support board on the underside. Moreover, the Examiner fails to even assert that Luck teaches or suggests this feature. Instead, the Examiner asserts that it would have been obvious to make the density of the top skin lower than the density of the lower skin. However, claim 1 recites densities of the support board (i.e., what the Examiner considers to be Luck's core), not that of the termination layers (i.e., what the Examiner considers to be Luck's skins). Therefore, the Examiner's assertion regarding the densities of the skins has no bearing on the above-noted feature of claim 1. And the Examiner does not assert that the density on the top side of Luck's core (which the Examiner asserts constitutes a support board) is lower than the density of the core on the underside. Therefore, the Examiner has failed to properly establish a *prima facie* case of obviousness with respect to claim 1 because the Examiner has failed to show how the applied reference teaches or suggests each and every feature of the claimed invention.

In any event, Luck simply does not teach or suggest the density on the top side of the support board is lower than the density of the support board on the underside. Instead, Luck consistently describes the core (i.e., what the Examiner considers to be a support board) as a uniform element, and makes no mention at all that the top side of the core has a density different from that of the underside of the core.

Furthermore, even assuming *arguendo* that the densities of the skins reads on the recited density of the support board, which the Examiner asserts but Applicants do

not concede, Luck makes no suggestion whatsoever that the density of one skin is different from the density of the other. Luck consistently describes the skins as having the same density, and makes no mention at all that the top skin has a density different from that of the bottom skin. Furthermore, the Examiner provides no motivation for making the proposed modification to Luck. Instead, the Examiner merely asserts that it would have been obvious to make the density of one skin lower than that of the other, but provides no teaching or suggestion as to why the skilled artisan would be motivated to do so. Therefore, the Examiner has failed to properly establish a *prima facie* case of obviousness with respect to claim 1.

Applicants respectfully submit that claims 2-5, 7, and 8 depend from allowable independent claim 1, and are allowable for at least the reasons discussed above.

Moreover, Applicants submit that the applied reference does not teach or suggest many of the features of the dependent claims. For example, Luck does not teach or suggest: the support board has a density of less than 700 kg/m^3 , as recited in claim 2; a gluing factor of greater than 10%, as recited in claim 3; that isocyanates are used as a means for gluing woodbased materials of the support board, as recited in claim 5; a mixture of isocyanates and UF or MUF resins as a means for gluing woodbased materials of the support board, as recited in claim 7; wherein the support board has a non-uniform density distribution over its cross section from the top side to the underside, as recited in claim 8; or a density of 1000 kg/m^3 on the underside with a density in the range of 400 kg/m^3 to 600 kg/m^3 in the center of the support board, as recited in claim 9.

Specifically regarding claims 5 and 7, which recite that the means for gluing comprises isocyanates, Applicants submit that Luck does not teach or suggest the use of isocyanates. Moreover, the Examiner admits that "Luck does not explicitly disclose the binder comprising isocyanate" (Office Action, page 5). Therefore, for at least this reason alone, the rejection of claims 5 and 7 in view of Luck is improper and should be withdrawn.

Moreover, the Examiner admits that "Luck does not explicitly [show] that the panel has a density, gluing factor, or density distribution as claimed." The Examiner is of the opinion, however, that all of the recited features regarding density, gluing factor, and density distribution are obvious in view of Luck. Specifically, the Examiner asserts:

... such features are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitations of the density, gluing factor or density distribution, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. density, gluing factor or density distribution) fails to render claims patentable in the absence of unexpected results.

Applicants disagree and submit that the Examiner is asserting facts without providing supporting documentary evidence. Thus, the Examiner has taken Official Notice of all of the claimed features regarding density, gluing factor, and density distribution without any specific support of documentary evidence. Applicants respectfully submit that the taking of Official Notice in this instance is improper.

The Examiner is reminded of the guidance provided by MPEP §2144.03 regarding the taking of Official Notice:

Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)).

...

If such notice is taken, the basis for such reasoning must be set forth explicitly. The examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. See *Soli*, 317 F.2d at 946, 37 USPQ at 801; *Chevenard*, 139 F.2d at 713, 60 USPQ at 241. The applicant should be presented with the explicit basis on which the examiner regards the matter as subject to official notice and be allowed to challenge the assertion in the next reply after the Office action in which the common knowledge statement was made.

...

If applicant adequately traverses the examiner's assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 ("[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings" to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).

In the current rejection, the Examiner has asserted that certain claimed properties (e.g., density, gluing factor, and density distribution) are the result of routine experimentation. However, the Examiner has failed to provide any basis for such reasoning. For example, the Examiner has failed to provide any reasoning regarding exactly what the scope of routine experimentation encompasses in the art of fiberboard panels, such as those provided by Luck. Moreover, the Examiner has failed to provide any reasoning that explains how, given Luck as a starting point, the claimed features are within such scope of routine experimentation. Accordingly, Applicants respectfully traverse the Examiner's assertion and request that documentary evidence supporting the assertion be provided in the next Office Action if the rejection is to be maintained.

Furthermore, Applicants note that MPEP §2144.05 states that, in regard to routine experimentation, only result-effective variables can be optimized. That is, a particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Applicants respectfully submit that the Examiner has failed to establish how the prior art recognizes that gluing factor and/or density distribution are result-effective variables. Therefore, the Examiner has improperly rejected the claims via the rationale of optimization through routine optimization.

In any event, even assuming *arguendo* that the claimed features are optimizable through routine experimentation, which Applicants do not concede, the claimed invention does indeed provide unexpected results. Exemplary panels with density

distribution and gluing factors according to implementations of the invention provide the following benefits, as described in the specification:

The fact that the density on the top side of the support board differs from that on the underside facilitates the operation of stamping or structuring the support board on account of the lower strength, as a result of which ***the wear to which the stamping plates or other structuring tools are subjected is reduced. It is likewise possible for the structuring or stamping to take place more quickly***, which overall results in quicker and more cost-effective production. (page 2, lines 1-9, emphasis added)

...

On account of the reduction in weight of the support boards of comparatively low relative density, the transportation costs are lowered and, furthermore, the support board achieves ***a hitherto unknown level of flexibility***, which allows for specific profile configurations, in particular in the case of so-called click-in connections. (page 3, lines 27-31, emphasis added)

...

Furthermore, the increase in the gluing factor results in ***improved moisture resistance*** since the reduced proportion of woodbased materials in the boards reduces the inclination of the support board to swell up. (page 3, lines 35-38, emphasis added)

...

In addition, the layers of different densities within the support board result in a refraction of the sound waves at the density-transition locations, ***so that the footfall and room sound is markedly reduced***. (page 4, lines 9-12, emphasis added)

Thus, the claimed invention does provide unexpected results. Therefore, contrary to the Examiner's assertion, the claimed invention is not merely the result of routine experimentation with the prior art.

Accordingly, Applicants respectfully request that the rejection over claims 1-5 and 7-9 be withdrawn.

Claim 6 in view of Luck and Thompson

The Examiner asserts that it would have been obvious to modify Luck in view of Thompson, and that the resultant combination teaches or suggests all of the features of claim 6. Applicants respectfully disagree.

Thompson discloses a binder composition comprising isocyanates (abstract; col. 1, lines 55-60). Thompson does not teach or suggest a gluing factor of less than 20% for isocyanates, as recited in claim 6. In fact, Thompson makes no mention whatsoever of any gluing factor. Moreover, the Examiner fails to even assert that Thompson teaches or suggests a gluing factor of less than 20% for isocyanates.

In any event, as discussed above, Luck does not teach or suggest all of the features of claim 1, from which claim 6 depends, including the termination layer of the top side has a structured surface, and the density on the top side of the support board is lower than the density of the support board on the underside. Thompson does not teach or suggest these features, and thus does not cure the deficiencies of Luck with respect to the independent claim. That is, Thompson makes no mention whatsoever of a support board and termination layers. Therefore, the applied references do not teach or suggest each and every feature of the claimed invention.

Accordingly, Applicants respectfully request that the rejection over claim 6 be withdrawn.

Rejoinder of Withdrawn Claims

Applicants respectfully submit that claim 22 is a linking claim in accordance with MPEP §809.03. More particularly, claim 22 includes the process limitations of claim 11 and depends from product claim 1, thereby linking the process and the product. Therefore, pursuant to MPEP §821.04, rejoinder of withdrawn claims 11-15 is proper since the elected "panel invention" is allowable, and all claims to the non-elected "process invention" depend from or otherwise require all the limitations of an allowable claim (i.e., allowable claim 22 includes all of the features of claims 1 and 11).

Accordingly, Applicants respectfully request that claims 11-15 be rejoined, and claims 1-9 and 11-22 be allowed.

CONCLUSION

In view of the foregoing remarks, Applicants submit that all of the claims are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed. Applicants hereby make a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 19-0089.

Respectfully submitted,
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